## LISTING OF THE CLAIMS:

Please amend the claims as follows:

Claims 1-34 (Cancelled).

35. (Currently Amended) A fiber amplifier comprising

a gain optical fiber having only one single-mode core, said core containing gain ions capable of producing stimulated emission of signal light within a predetermined band of wavelengths including wavelengths $\lambda_s$ when pumped with pump light of wavelength $\lambda_p$, said fiber having first and second ends,

a filtering fiber containing gain ions for filtering signal light,

a pump light-attenuating fiber having a core containing a dopant that attenuates said pump light while signal light remains substantially unattenuated, said pump light-attenuating fiber connecting the second end of said gain fiber to an end of said filtering fiber, wherein the pump light-attenuating fiber comprises a fiber-type grating reflector for reflecting pump light,

means for introducing pump light of wavelength $\lambda_p$ into the first end of said gain fiber, and

means for introducing a signal of wavelength $\lambda_s$ into one of the ends of the series combination of said gain fiber, said pump light-attenuating fiber and said filtering fiber, the gain ions of said filtering fiber remaining unexcited during operation because of the pump light filtering action of said pump light-attenuating fiber, whereby said filtering fiber alters the spectral gain of said amplifier.

36. (Currently Amended) A fiber amplifier comprising

first and second gain optical fiber sections, each having only one single-mode core, said core containing dopant ions capable of producing stimulated emission of light within a predetermined band of wavelengths including a wavelength $\lambda_s$ when pumped with light of wavelength $\lambda_p$, each gain fiber section having first and second ends,

first and second light-attenuating fiber sections, each having a core containing a dopant that attenuates optical power in at least one wavelength band including said wavelength $\lambda_p$,

while optical power at said wavelength $\lambda_s$ remains substantially unattenuated thereby, each pump light-attenuating fiber section having first and second ends, the first end of each of said pump light-attenuating fiber sections is connected in series [[being spliced]] to a respective one of the second ends of said gain fiber sections,

a filtering fiber, the ends of which are respectively connected to the second ends of said pump light attenuating fiber sections, said filtering fiber being doped with gain ions,

means for introducing pump light of wavelength $\lambda_p$ into the first end of each of said gain fiber sections, and

means for introducing a signal of wavelength $\lambda_s$ into the first end of one of said gain fiber sections, the gain ions of said filtering fiber remaining unexcited during operation because of the pump light filtering action of said pump light-attenuating fiber.

37. (Currently Amended) A fiber amplifier comprising

a gain optical fiber having only one single-mode core, said core containing dopant ions capable of producing stimulated emission of light within a predetermined band of wavelengths including a wavelength $\lambda_s$ when pumped with light of wavelength $\lambda_p$, said gain fiber having input and output ends,

filtering means for attenuating light at at least some of the wavelengths within said predetermined band of wavelengths, said filtering means containing ions that can be excited by light of wavelength $\lambda_p$,

means for introducing a signal of wavelength $\lambda_s$ into said gain fiber input end,

means for introducing pump light of wavelength $\lambda_p$ into said gain fiber, and

means for preventing the excitation of said filtering means by light of wavelength $\lambda_p$, wherein means for preventing the excitation comprises a fiber-type grating reflector for reflecting pump light.

38. (Previously Presented) A fiber amplifier in accordance with claim 37 wherein said gain fiber is co-doped with signal light absorbing ions that are different from said gain ions.

39. (Currently Amended) A fiber amplifier comprising

a gain optical fiber having only one single-mode core, said core containing dopant ions capable of producing stimulated emission of light within a predetermined band of wavelengths including a wavelength $\lambda_s$ when pumped with light of wavelength $\lambda_p$, said gain fiber having input and output ends, said dopant ions being selected from the group consisting of erbium, neodymium and praseodymium,

filtering means for attenuating light at at least some of the wavelengths within said predetermined band of wavelengths, said filtering means containing a dopant selected from the group consisting of erbium, dysprosium, neodymium, ytterbium, samarium, praseodymium, thulium, vanadium and cadmium selenide,

means for introducing a signal of wavelength $\lambda_s$ into said gain fiber input end, [[and]]

means for introducing pump light of wavelength $\lambda_p$ into said gain fiber, and

means for preventing the excitation of said filtering means by light of wavelength $\lambda_p$, wherein means for preventing the excitation is disposed between the gain optical fiber and the filtering means, wherein the means for preventing the excitation includes an optical fiber having a dopant that substantially attenuates light at wavelength $\lambda_p$.

40. (Previously Presented) A gain amplifier in accordance with claim 39 wherein said filtering means comprises an optical fiber containing said dopant ions.

41. (Currently Amended) A fiber amplifier having a flattened gain spectrum comprising

a gain optical fiber having only one single-mode core, said core containing dopant ions capable of producing a gain spectrum due to stimulated emission of light within a predetermined band of wavelengths including a wavelength $\lambda_s$ when pumped with light of wavelength $\lambda_p$, said gain fiber having input and output ends, and wherein the gain spectrum of said gain optical fiber over said band of wavelengths has a first portion having a relatively small gain variation over a region of said band wavelengths and a second portion having a relatively large gain variation over a different region of said band wavelengths, wherein said first portion of the gain spectrum is relatively flat and wherein said second portion is not flat and exhibits a greater gain than the gain exhibited over said relatively flat portion;

ion filtering means for absorbing light within said predetermined band of wavelengths, said ion filtering means having an absorption spectrum having a first portion exhibiting relatively small absorption over said region of said band of wavelengths and a second portion having a relatively large absorption of said different region of said band of wavelengths where the gain spectrum is not flat, said ion filtering means comprising a concentration and distribution of unpumped gain ions within said ion filtering means wherein amplified light having wavelengths within said predetermined band of wavelengths where the gain spectrum is not flat is attenuated to an extent such that the gain spectrum over the entire predetermined band of wavelengths is flattened and exhibits relatively small gain variation over said entire band of wavelengths;

means for introducing a signal of wavelength $\lambda_s$ into said gain fiber input end,

means introducing pump of wavelength $\lambda_p$ into said gain fiber, and

means for preventing the excitation of said pumped gain ions by light of wavelength $\lambda_p$ wherein means for preventing the excitation is disposed between the gain optical fiber and the ion filtering means, wherein the means for preventing the excitation includes an optical fiber having a dopant that substantially attenuates light at wavelength $\lambda_p$.

42. (Currently Amended) A fiber amplifier comprising

a gain optical fiber having only one single-mode core, said core containing dopant ions capable of producing stimulated emission of light within a predetermined band of wavelengths including a wavelength $\lambda_s$ when pumped with light of wavelength $\lambda_p$ said gain fiber having input and output ends, and wherein the gain spectrum of said gain optical fiber, over said band of wavelengths and when pumped with light from wavelength $\lambda_p$, has a first portion which is relatively flat and a second portion which is not flat and exhibits gain greater than the gain exhibited over said relatively flat portion;

filtering means for attenuating light at at least some of the wavelengths within said predetermined band of wavelengths, said filtering means containing ions that can be excited by light of wavelength $\lambda_p$, said filtering means having a transmission curve over said predetermined band of wavelengths and in the absence of excitation by said gain fiber over said predetermined band of wavelengths when said gain fiber is excited by light at wavelength $\lambda_p$ so that when light in the range of said predetermined range of wavelengths is amplified and filtered by said filtering

means, the resulting gain spectrum for said amplifier over said predetermined range of wavelengths is substantially flat;

means for introducing a signal of wavelength $\lambda_s$ into said gain fiber input end;

means for introducing pump light of wavelength $\lambda_p$ into said gain fiber; and

means for preventing the excitation of said filtering means by light of wavelength $\lambda_p$, wherein means for preventing the excitation includes a fiber-type grating reflector for reflecting pump light.

43. (Currently Amended) A fiber amplifier comprising

a gain optical fiber having only one single-mode core, said core containing dopant ions capable of producing stimulated emission of light within a predetermined band of wavelengths including a wavelength $\lambda_s$ when pumped with light of wavelength $\lambda_p$, said gain fiber having input and output ends, said dopant ions being selected from the group consisting of erbium, neodymium and praseodymium, and wherein the gain spectrum of said gain optical fiber, over said band of wavelengths and when pumped with light from wavelength $\lambda_p$ has a first portion which is relatively flat and a second portion which is not flat and exhibits gain greater than the gain exhibited over said relatively flat portion;

filtering means for attenuating light at at least some of the wavelengths within said predetermined band of wavelengths, said filtering means containing a dopant selected from the group consisting of erbium, dysprosium, neodymium, ytterbium, samarium, praseodymium, thulium, vanadium and cadmium selenide, said filtering means having a transmission curve over said predetermined band of wavelengths and in the absence of excitation by said gain fiber over said predetermined band of wavelengths when said gain fiber is excited by light at wavelength $\lambda_p$ so that when light in the range of said predetermined range of wavelengths is amplified and filtered by said filtering means, the resulting gain spectrum for said amplifier over said predetermined range of wavelengths is substantially flat;

means for introducing a signal of wavelength $\lambda_s$ into said gain fiber input end; [[and]]

means introducing pump light of wavelength $\lambda_p$ into said gain fiber, and

means for preventing the excitation of said pumped gain ions by light of wavelength $\lambda_p$ wherein means for preventing the excitation is disposed between the gain optical fiber and the

filtering means, wherein the means for preventing the excitation includes an optical fiber having a dopant that substantially attenuates light at wavelength $\lambda_p$.

Claims 44-50 (Cancelled).